

# Building Competitions Save Energy in the Pacific Northwest

## Advanced Meters Provide Feedback on Energy Behavior

**BUILDING ENERGY USE** competitions are yielding results at Navy commands in the Pacific Northwest. Competitions bring more awareness to energy use on base and engage building occupants to get involved.

In the Pacific Northwest, the concept of an energy use competition started at Naval Air Station (NAS) Whidbey Island in Washington State and has spread to Naval Base Kitsap. Chris Taylor, the installation energy

\$500,000 (10.5 percent) that year, largely due to matching heating loads to actual building occupancy.

Seeing the potential to use energy data to further engage building occupants and reduce energy cost, Taylor began the beta testing phase of a Tenant Energy Efficiency Program in 2014 with a few select representative organizations. He wanted to verify assumptions about scoring and program goals.

improve operation and maintenance of energy-using systems.

Prompted by the success at NAS Whidbey Island, Tabitha Pierzchala, the installation energy manager at Naval Base Kitsap Bangor, held a competition at Naval Base Kitsap. The initial competition included 11 buildings and five tenant commands. Buildings were selected to maximize leadership awareness by selecting buildings occupied by senior leaders.

The first full year of quarterly competitions resulted in a net savings of more than \$121,000 in electricity cost.

manager at NAS Whidbey Island, began to study advanced meter data in 2013 and began to notice trends. New meters that can report energy use by time of day for individual buildings were installed in 2012 and began to collect data. Taylor identified high energy use at several buildings and evaluated their use patterns. He reached out to building occupants and challenged the hours of occupancy that they claimed. His efforts reduced energy cost by more than

The first full year of quarterly competitions (fiscal year 2015) led to engagement with 29 commands in 20 facilities and resulted in a net savings of more than \$121,000 in electricity cost. This constituted a 4.3 percent reduction from the previous year for participating facilities. The competitions at NAS Whidbey Island involved the same buildings each quarter, and have resulted in more focus energy savings as facility managers actively look for ways to

The competition concluded with modest results. In the three months of the competition the net savings reached 2.6 percent.

Encouraged by the positive results, Pierzchala and Naval Base Kitsap Bremerton energy manager Paul Songe-Moller organized a second competition. The competition involved 21 buildings at Puget Sound Naval Shipyard and Intermediate Maintenance Facility which uses

45 percent of the energy for the entire region. The competition organization and awareness campaign ran from January through March, and the competition ran in April 2016. The competition focused on using weekly reports of advance meter data as feedback and prompting engagement from building managers. This competition resulted in a net savings of 162 megawatt-hours of electricity and \$16,000 savings in electricity cost for April 2016—a very respectable 9 percent electricity reduction for the 21 buildings involved. Because Naval Base Kitsap Bremerton has approximately 10 million square feet of facilities, and the effort required to evaluate and present the meter data, competitions are currently rotating among small groups of tenants and facilities. This keeps the meter data reviews and interaction with competitors manageable.

At both commands, energy competitions foster a culture of energy efficiency and challenge building occupants to pay attention to their energy consumption. Leadership is taking notice. As they review accomplishments and present awards, their support for the program is reinforced.



Capt. Mike Nortier, NAS Whidbey Island Commanding Officer presents James Reynolds, Fleet and Family Readiness Center (FFRC) building manager with a \$10,000 Facility Improvements Big Check for energy saved by the center. Wayne Short, FFRC director, is holding the trophy and Cmdr. Steve Richards is at the podium.

Marcie West

## For More Information

FOR MORE INSIGHTS into NAS Whidbey Island's efforts to match heating and cooling loads to actual building occupancy, read our article "Matching Building Energy Use to Requirements and Occupancy: NAS Whidbey Island Ensures Energy Use Correlates with Energy Demands" in the spring 2015 issue of *Currents* at <http://greenfleet.dodlive.mil/currents-magazine>.



# Energy competitions foster a culture of energy efficiency and challenge building occupants to pay attention to their energy consumption.

Tips for conducting a successful energy competition include:

- Get command level buy-in from the start.
- Decide which buildings to include in the competition. Double check the consumption during the baseline period to make sure each building in the competition has a good baseline for comparison. An installation-wide competition can run using the Facility Energy Management report in the Navy's Comprehensive Utilities Information Tracking System (CIRCUITS) for consumption data. Competitions that target small groups of buildings, like a tenant command, can be executed using the Usage and Variance report or a trending report from the Meter Data Management module in CIRCUITS to track consumption data.
- Advertise the competition using methods such as e-mail, social media, command newsletters and posters. Start planning three months before competition kickoff, so the level of effort doesn't interfere with existing workloads. Start the awareness campaign four to six weeks before the kickoff.
- Make personal visits to the building manager for each tenant command or building in the competition. Consider which devices receive no use after hours then, take a walk through to see how many remain on during this time. Ask competitors to identify ways to save energy in their facility.
- Provide regular feedback to each building manager on their energy consumption. Consider providing feedback in the form of a utility bill or send an energy use graph for the previous week. Ask building managers to forward or post the feedback and results to date in their buildings.
- Score the competition based on a combination of best energy practices by the building manager and actual energy reduction during the competition period.
- Reinforce the concept that saving energy saves money which can better fund the mission.

## For More Insights

**FOR INSIGHTS INTO** another approach at an energy competition, read our article "NAS Sigonella Named Energy Biggest Loser in Navy Region EURAFSWA Competition: Second Annual Competition Pits Bases in Energy Reduction Battle" in the winter 2015-16 issue of *Currents*. The Energy Biggest Loser competition, hosted by Navy Region Europe, Africa, Southwest Asia, challenges installations in the region to reduce their own energy consumption.



- Have an award ceremony with the commanding officer. Provide awards such as a traveling trophy or plaque, an energy flag, or individual awards from the command's existing employee recognition program. Consider designating resources from the building maintenance budget for a facility improvement award for the winner, and present it as a large check signed by the commanding officer. Publicize best practices done by facility managers. ⚓

Leslie Yuenger  
Naval Facilities Engineering Command  
Northwest  
360-396-6387  
DSN: 744-6387  
leslie.yuenger@navy.mil